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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/957,435	09/19/2001	Katsuki Suematsu	NAGAT24.001AUS	3246

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EXAMINER
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FISCHER, JUSTIN R

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 10/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/957,435

Applicant(s)

SUEMATSU ET AL.

Examiner

Justin R Fischer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 September 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)  
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other:

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims as currently drafted require a "holding member" and a "support member"; however, the original specification fails to clearly define what portions within the die these "members" are. In particular, the original specification fails to define the aforementioned "members" with a reference character and thus, none of the figures identify these "members". Thus, it is unclear which components of the die the applicant intends to be the respective "members". It is noted that reference character 12a is used to define a support block and as such, for examination purposes, this component will be viewed as the "support member". Regarding the "holding member", the figures define a pair of positioning blocks 14 and 18- for examination purposes, these blocks will be viewed as the "holding members". Applicant is asked to clarify the components of the molding die without the introduction of new matter.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 5, 7, 9, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Shiota (US 5,602,951). As best depicted in Figures 1, 7, and 11, Shiota teaches a ferrule manufacturing method having (i) pin holes defined by reference pins 5a, 5b, (ii) a plurality of fiber holes defined by core pins 3, and an inlet port or opening portion 700 communicated to said plurality of fiber holes into which said optical fiber is introduced. In describing the manufacturing assembly, Shiota includes a holding member 26 and support members 12 and 22, wherein said holding member is disposed within the die during the molding step. It is noted that the claims are directed to a method of manufacturing a ferrule- not a method of using the ferrule in which optical fibers are adhered within the ferrule assembly. As such, the language "said optical fiber adhered and fixed to said fiber hole with adhesive injected from said inlet port" fails to further define the ferrule manufacturing method of the claimed invention- the initial language of the claim requires the ferrule to have pin holes, a plurality of fiber holes, and an inlet port.

Regarding claim 3, two support members 12 and 26 are used in the ferrule manufacturing assembly of Shiota.

Regarding claim 5, the support members of Shiota have a form "like a column". The language "like a column" does not structurally define over the support members of Shiota. It is noted that applicant appear to use this language to define a support member having a circular base, as depicted in Figure 8. If this is this case, one of ordinary skill in the art at the time of the invention would have found it obvious to use a

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variety of shapes for the support member as long as the pin hole region is adequately covered and the necessary pressing force is applied.

With respect to claims 7 and 9, the ferrule manufacturing assembly of Shiota contains upper and lower dies 1, 2.

Regarding claim 11, this claim is a product by process claim. As previously stated, the ferrule of Shiota contains a plurality of fiber holes formed between a pair of pin holes and further contains an inlet port 700 communicated to said plurality of fiber holes and opened on a rear end face. The language "for injecting adhesive to adhere and fix said optical fiber to said fiber holes therefrom" represents the intended use of the inlet port and does not further define the structure of the ferrule article. Lastly, the inlet port of Shiota is clearly capable of functioning as an adhesive input means.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 4, 6, 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiota. As previously stated, Shiota defines a ferrule manufacturing method/assembly in which a pair of support members 12, 26 having respective widths of "W1" and "W2" are included within the die during the molding step (Figure 1). While the reference fails to expressly provide a quantitative value or relationship for the respective widths, a fair reading of the disclosure suggests that one of ordinary skill in

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the art at the time of the invention would have found it obvious to form the assembly of Shiota with the specifications of the claimed invention. In particular, while it is unclear if the figures of Shiota are working drawings, they can provide "gross relative dimensions" to satisfy the broad quantitative relationships of the claimed invention, as further set forth below.

Regarding the length  $L_p$  (in the longitudinal direction of the die), the claim requires that the length be less than or equal to one-eighth of the length of the ferrule. In this instance, Shiota defines the relevant length of the support member as "W1". It is evident from Figure 1 that the distance is extremely small in relation to the entire length of the ferrule. Using gross relative dimensions, the length of the support member 12 is approximately one-fourteenth of the entire length of the ferrule. Thus, one of ordinary skill in the art at the time of the invention would have readily appreciated the broad range of the claimed invention in view of the general depiction supplied by the figures and the gross relative dimensions extracted from the figures. Lastly, applicant has not provided any conclusive showing of unexpected results to establish a criticality for the claimed length of the support member.

With respect to the width  $W_p$  (in the lateral direction), the claim requires that the width be less than or equal to one-third of the entire width of the ferrule. It is evident from Figure 1 that the distance is relatively small in relation to the entire width of the ferrule. Using gross relative dimensions, the width of the support member 12 is approximately one-fourth of the entire length of the ferrule, which is well within the broad range of the claimed invention. Thus, one of ordinary skill in the art at the time of the

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invention would have readily appreciated the broad range of the claimed invention in view of the general depiction supplied by the figures and the gross relative dimensions extracted from the figures. Lastly, applicant has not provided any conclusive showing of unexpected results to establish a criticality for the claimed width of the support member.

Lastly, with respect to the distance  $L_{pc}$ , applicant requires that the distance between the front end of the ferrule and the center of the support member be between three-eighths and five-eighths of the length of the ferrule. As depicted in the figures, the center part of the support member appears to at a position that is slightly less than half the length of the ferrule. One of ordinary skill in the art at the time of the invention would have readily appreciated the broad range of the claimed invention in view of the depiction by Shiota. Lastly, applicant has not provided any conclusive showing of unexpected results to establish a criticality for the claimed width of the support member.

Regarding claim 4, Shiota includes two support members 12, 26.

Regarding claim 6, the support members of Shiota have a form "like a column". The language "like a column" does not structurally define over the support members of Shiota. It is noted that applicant appear to use this language to define a support member having a circular base, as depicted in Figure 8. If this is this case, one of ordinary skill in the art at the time of the invention would have found it obvious to use a variety of shapes for the support member as long as the pin hole region is adequately covered and the necessary pressing force is applied.

With respect to claims 8 and 10, the assembly of Shiota includes upper and lower dies 1, 2.

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**Conclusion**

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Deacon (US 4,711,752) describes a ferrule manufacturing method in which an insert or bushing 50 is included within the die during the molding step to hold the front end of the core pins despite the introduction of high pressures as a result of injection molding. Isawa (JP 05124065) teaches a ferrule manufacturing method having first pin holding plates 56, 16 and second pin holding plates 17, 18. Ohtsuka (US 6,264,375) discloses a ferrule manufacturing method in which holding members 13 are disposed within the die during the molding step.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R Fischer** whose telephone number is **(703) 605-4397**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
Justin Fischer

September 29, 2003

  
JEFF H. ATERGUT  
PRIMARY EXAMINER  
GROUP 1300